

U.S. Department of Commerce, Patent and Trademark Office						Atty Docket No.		Serial No.	
						M-9455 US		Unknown	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT						Applicants		#10	
(Use several sheets if necessary)						Holden, et al.			
						Filing Date			
						Herewith		Group	
								Unknown	

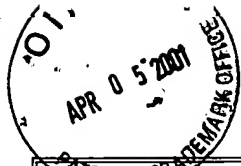
U.S. Patent Documents							
*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
#1	AA	RE 34,783	11/8/94	Coates	250	372	
	AB	4,672,196	6/9/87	Canino	250	225	
	AC	5,045,704	9/3/91	Coates	250	372	
	AD	5,607,800	3/4/97	Ziger	430	8	
	AE	5,739,909	4/14/98	Blayo et al.	356	369	
	AF	5,747,813	5/5/98	Norton et al.	250	372	
#2	AG	5,841,139	11/24/98	Sostek et al.	250	339	
	AH						
	AI						
	AJ						
	AK						

Foreign Patent Documents									
							Translation		
		Document	Date	Country	Class	Subclass	Yes	No	
#3	✓	AL	WO 99/45340	9/10/99	PCT	G01B	11/02	X	
#4		AM	JP 11211421	8/6/99	Japan	G01B	11/02	Abstract	X
#5		AN	JP 11211422	8/6/99	Japan	G01B	11/02	Abstract	X
		AO							
		AP							

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)		
#6	AQ	Corle, et al., "Polarization-enhanced imaging of photoresist gratings in the real-time scanning optical microscope", Applied Optics, Vol. 33, No. 4, pages 670-677 (February 1, 1994).
#7	AR	Hauge, "Recent Developments in Instrumentation in Ellipsoetry", Surface Science 96, pages 108-140 (1980).
	AS	

Examiner #8	Date Considered Feb 14, 2002
--	------------------------------

***EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.



#3. Sheet 1 of 2

U.S. Department of Commerce, Patent and Trademark Office	Atty Docket No.	Serial No.
RECEIVED APR -9 2001 TG 2800 MAIL ROOM	M-9455 US	09/670,000
INFORMATION DISCLOSURE STATEMENT BY APPLICANT		Applicants
(Use several sheets if necessary)		James M. Holden et al.
Filing Date		Group
September 25, 2000		Unknown

U.S. Patent Documents

*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
<input checked="" type="checkbox"/>	AA	4,141,780	Feb. 27, 1979	Kleinknecht et al.	156	626	_____
<input checked="" type="checkbox"/>	AB	4,172,664	Oct. 30, 1979	Charsky et al.	356	356	_____
<input checked="" type="checkbox"/>	AC	4,408,884	Oct. 11, 1983	Kleinknecht et al.	356	355	_____
<input checked="" type="checkbox"/>	AD	4,593,368	Jun. 3, 1986	Fridge et al.	364	525	_____
<input checked="" type="checkbox"/>	AE	4,707,610	Nov. 17, 1987	Lindow et al.	250	560	_____
<input checked="" type="checkbox"/>	AF	4,748,335	May 31, 1988	Lindow et al.	250	572	_____

Foreign Patent Documents

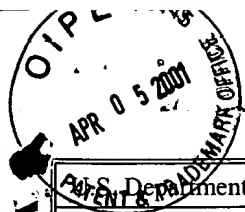
							Translation	
		Document	Date	Country	Class	Subclass	Yes	No
<input checked="" type="checkbox"/>	✓	AG	EP 1 037 012 A1	9/20/00	Europe	_____		✗
<input checked="" type="checkbox"/>	✓	AH	EP 0 402 191 A1	12/12/90	Europe	_____	Claims	✗

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

<input checked="" type="checkbox"/>	✓	AI	Davidson, M. et al., "A comparison between rigorous light scattering methods", <i>SPIE</i> Vol. 3051 (1997) Pages 606-619.
<input checked="" type="checkbox"/>	✓	AJ	Galarza, C. et al., "Real-time Estimation of Patterned Wafer Parameters Using <i>In Situ</i> Spectroscopic Ellipsometry", <i>Proceedings of the IEEE</i> (1999) Pages 773-778.
<input checked="" type="checkbox"/>	✓	AK	Haverlag, M. et al., "In situ ellipsometry and reflectometry during etching of patterned surfaces: Experiments and simulations", <i>Journal of Vacuum Science & Technology B</i> , Volume 10 (1992) Pages 2412-2418.
<input checked="" type="checkbox"/>	✓	AL	Heimann, P. et al., "Optical Etch-Rate Monitoring: Computer Simulation of Reflectance", <i>Electrochemical Society Active Member</i> , Volume 131 (1984) Pages 881-885.
<input checked="" type="checkbox"/>	✓	AM	Krukar, R. et al., "Reactive ion etching profile and depth characterization using statistical and neural network analysis of light scattering data", <i>J. Appl. Phys.</i> , Vol. 74 (1993) Pages 3698-3706.
<input checked="" type="checkbox"/>	✓	AN	Lee, M. et al., "Analysis of Reflectometry and Ellipsometry Data from Patterned Structures", <i>Characterization and Metrology for ULSI Technology</i> , (1998) Pages 331-334.
<input checked="" type="checkbox"/>	✓	AO	Marx, D. et al., "Polarization quadrature measurement of subwavelength diffracting structures", <i>Applied Optics</i> , Vol. 36 (1997), Pages 6434-6440.

Examiner JS Date Considered Feb 14, 2002

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.



#3

U.S. Department of Commerce, Patent and Trademark Office	Atty Docket No.	Serial No.
	M-9455 US	09/670,000
INFORMATION DISCLOSURE STATEMENT BY APPLICANT		Applicants
(Use several sheets if necessary)		James M. Holden et al.
Filing Date		Group
September 25, 2000		Unknown

U.S. Patent Documents

*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
<input checked="" type="checkbox"/>	AA	5,042,949	Aug. 27, 1991	Greenberg et al.	356	345	_____
<input type="checkbox"/>	AB	5,164,790	Nov. 17, 1992	McNeil et al.	356	355	_____
<input type="checkbox"/>	AC	5,363,171	Nov. 8, 1994	Mack	355	68	_____
<input type="checkbox"/>	AD	5,739,909	Apr. 14, 1998	Blayo et al.	356	369	_____
<input checked="" type="checkbox"/>	AE	5,963,329	Oct. 5, 1999	Conrad et al.	356	372	_____
	AF						

Foreign Patent Documents

							Translation	
		Document	Date	Country	Class	Subclass	Yes	No
<input checked="" type="checkbox"/>	✓	AG	EP 0 601 580 A1	6/15/94	Europe	_____		<input checked="" type="checkbox"/>
		AH						

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

<input checked="" type="checkbox"/>	✓	AI	Mills, D. et al., "Spectral ellipsometry on patterned wafers," <i>SPIE</i> , Vol. 2637 (1995) Pages 194-203.
<input type="checkbox"/>	✓	AJ	Moharam, M. et al., "Diffraction analysis of dielectric surface-relief gratings", <i>J. Opt. Soc. Am.</i> , Vol. 72 (1982) Pages 1385-1392.
<input type="checkbox"/>	✓	AK	Moharam, M. et al., "Formulation for stable and efficient implementation of the rigorous coupled-wave analysis of binary gratings", <i>J. Opt. Soc. Am.</i> , Vol. 12 (1995) Pages 1068-1076.
<input type="checkbox"/>	✓	AL	Moharam, M. et al., "Rigorous coupled-wave analysis of planar-grating diffraction", <i>J. Opt. Soc. Am.</i> , Vol. 71 (1981) Pages 811-818.
<input type="checkbox"/>	✓	AM	Moharam, M. et al., "Stable implementation of the rigorous coupled-wave analysis for surface-relief gratings: enhanced transmittance matrix approach", <i>J. Opt. Soc. Am.</i> , Vol. 12 (1995) Pages 1077-1086.
<input type="checkbox"/>	✓	AN	Naqvi, S. et al., "Linewidth measurement of gratings on photomasks: a simple technique", <i>Applied Optics</i> , Vol. 31 (1992) Pages 1377-1384.
<input checked="" type="checkbox"/>	✓	AO	Ziger, D. et al., "Linesize effects on ultraviolet reflectance spectra"

Examiner <i>[Signature]</i>	Date Considered <i>Feb 14, 2002</i>
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.	

U.S. Department of Commerce, Patent and Trademark Office		Atty Docket No.	Serial No.
		M-9455 US	09/670,000
INFORMATION DISCLOSURE STATEMENT BY APPLICANT		Applicants	
(Use several sheets if necessary)		James M. Holden et al.	
Filing Date		Group	
September 25, 2000		Unknown	

U.S. Patent Documents

*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
<input checked="" type="checkbox"/>	AA	4,582,389	Apr. 15, 1986	Wood et al.	350	3.69	—
<input checked="" type="checkbox"/>	AB	5,007,708	Apr. 16, 1991	Gaylord et al.	350	162.2	—
<input checked="" type="checkbox"/>	AC	5,035,770	Jul. 30, 1991	Braun	156	643	—
<input checked="" type="checkbox"/>	AD	5,191,216	Mar. 2, 1993	Henderson et al.	257	28	—
<input checked="" type="checkbox"/>	AE	5,216,680	Jun. 1, 1993	Magnusson et al.	372	20	—
<input checked="" type="checkbox"/>	AF	5,337,146	Aug. 9, 1994	Azzam	356	367	—
<input checked="" type="checkbox"/>	AG	5,349,440	Sep. 20, 1994	DeGroot	356	349	—

Foreign Patent Documents

							Translation	
		Document	Date	Country	Class	Subclass	Yes	No
<input checked="" type="checkbox"/>	AH	59-225038	Dec. 18, 1984	Japan	—	—	Abstract	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	AI	SU 1747877 A1	Jul. 15, 1992	SU	—	—	Abstract	<input checked="" type="checkbox"/>
	AJ							
	AK							
	AL							

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

<input checked="" type="checkbox"/>	AM	Bao, G. et al., "Mathematical studies in rigorous grating theory", <i>J. Opt. Soc. Am. A</i> , Vol. 12 (1995), Pages 1029-1042.
<input checked="" type="checkbox"/>	AN	Bao, G. et al., "Modeling and Optimal Design of Diffractive Optical Structures", Pages 1-27.
<input checked="" type="checkbox"/>	AO	Benson, T. et al., " <i>In-situ</i> Spectroscopic Reflectometry for Polycrystalline Silicon Thin Film Etch Rate Determination During Reactive Ion Etching", Pages 1-34.
<input checked="" type="checkbox"/>	AP	Bosenberg, W. et al., "Linewidth Measurement on IC Wafers by Diffraction from Grating Test Patterns", <i>Solid State Technology</i> (1983) Pages 79-85.
<input checked="" type="checkbox"/>	AQ	Chateau, N. et al., "Algorithm for the rigorous coupled-wave analysis of grating diffraction," <i>J. Opt. Soc. Am. A</i> , Vol. 11 (1994), Pages 1321-1331.

Examiner <input checked="" type="checkbox"/>	Date Considered Feb 14, 2002
--	------------------------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.

U.S. Department of Commerce, Patent and Trademark Office				Atty Docket No.		Serial No.	
				M-9455 US		09/670,000	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Applicants			
(Use several sheets if necessary)				James M. Holden et al.			
				Filing Date		Group	
				September 25, 2000		Unknown	

U.S. Patent Documents							
*Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate	
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						

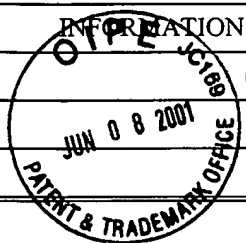
Foreign Patent Documents								
							Translation	
	Document	Date	Country	Class	Subclass	Yes	No	
	AH							
	AI							
	AJ							
	AK							
	AL							

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)		
✗	AM	Coulombe, S. et al., "Ellipsometric-Scatterometry for sub-01. μ m CD measurements" <i>SPIE</i> Vol. 3332 (1988) Pages 282-292.
✓	AN	Damar, H. et al., "Diffraction Characterization for Process Monitoring, Linewidth Measurement and Alignment" <i>SPIE</i> Vol. 470 (1984) Pages 157-163.
✓	AO	Gaylord, T. et al., "Analysis and Applications of Optical Diffraction by Gratings," <i>Proceedings of the IEEE</i> , Vol. 73, (1984), Pages 894-937 (1985).
✓	AP	Giapis, K. et al., "Use of Light Scattering in Characterizing Reactively Ion Etched Profiles", <i>J. Vac. Sci. Technol. A</i> , Vol. 9 (1981), Pages 664-668.
✗	AQ	Glytsis, E. et al., "Rigorous Coupled-Wave Analysis And Applications Of Grating Diffraction", <i>Critical Reviews Of Optical Science and Technology</i> , Vol. CR49 (1993), Pages 1-31.

Examiner	Date Considered Feb 14, 2002
----------	------------------------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.

U.S. Department of Commerce, Patent and Trademark Office		Atty Docket No.	Serial No.
		M-9455 US	09/670,000
INFORMATION DISCLOSURE STATEMENT BY APPLICANT		Applicants	
(Use several sheets if necessary)		James M. Holden et al.	
		Filing Date	Group
		September 25, 2000	Unknown



U.S. Patent Documents							
*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						

RECEIVED
JUN 12 2001
TECHNICAL CENTER 2100

Foreign Patent Documents							Translation	
		Document	Date	Country	Class	Subclass	Yes	No
	AH							
	AI							
	AJ							
	AK							
	AL							

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)		
<input checked="" type="checkbox"/>	AM	Glytsis, E. et al., "Three-dimensional (vector) rigorous coupled-wave analysis of anisotropic grating diffraction", <i>J. Opt. Soc. Am. A</i> , Vol. 7 (1990), Pages 1399-1420.
<input checked="" type="checkbox"/>	AN	Kleinknecht, H. et al., "Linewidth measurement on IC masks and wafers by grating test patterns", <i>Applied Optics</i> , Vol. 19 (1980) Pages 525-533.
<input checked="" type="checkbox"/>	AO	Kong, W. et al., "Analysis of Time-Evolved Spectroscopic Ellipsometry Data from Patterned Structures for Etching Process Monitoring and Control", Four pages.
<input checked="" type="checkbox"/>	AP	Moharam, M., "Coupled-Wave Analysis of Two-Dimensional Dielectric Gratings", <i>SPIE</i> Vol. 883 (1988) Pages 8-11.
<input checked="" type="checkbox"/>	AQ	Moharam, M. et al., "Three-dimensional vector coupled-wave analysis of planar-grating diffraction", <i>J. Opt. Soc. Am.</i> , Vol. 73 (1983), Pages 1105-1112.

Examiner	Date Considered Feb 14, 2002
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.	

U.S. Department of Commerce, Patent and Trademark Office

Atty Docket No.

Serial No.

M-9455 US

09/670,000

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use several sheets if necessary)

Applicants

James M. Holden et al.

Filing Date

Group

September 25, 2000

Unknown

U.S. Patent Documents

*Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
AA						
AB						
AC						
AD						
AE						
AF						
AG						

Foreign Patent Documents

							Translation	
	Document	Date	Country	Class	Subclass		Yes	No
AH								
AI								
AJ								
AK								
AL								

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

<input checked="" type="checkbox"/>	AM	Press, W. et al., "Numerical Recipes: The Art of Scientific Computing," <i>Cambridge University Press</i> , Section 14.4 (1986), Pages 521-528.
<input checked="" type="checkbox"/>	AN	Tadros, K., "Understanding metrology of polysilicon gates through reflectance measurement and simulation", <i>SPIE</i> Vol. 1464 (1991) Pages 177-186.
<input type="checkbox"/>	AO	Tu, K. et al., "Multiple-scattering theory of wave diffraction by superposed volume gratings", <i>J. Opt. Soc. Am. A.</i> , Vol. 7 (1990), Pages 1421-1435.
<input checked="" type="checkbox"/>	AP	"A Diffraction Grating Analysis Tool", downloaded 5/7/2001 from http://www.gsolver.com/gsprod.html , Grating Solve Development Co. (1999).
<input type="checkbox"/>	AQ	

Examiner

Date Considered

Feb 14, 2002

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.

U.S. Department of Commerce, Patent and Trademark Office		Atty Docket No.	Serial No.
JUN 18 2001		M-9455 US	09/670,000
INFORMATION DISCLOSURE STATEMENT BY APPLICANT		Applicants	
(Use several sheets if necessary)		James M. Holden et al.	
		Filing Date	Group
		September 25, 2000	Unknown


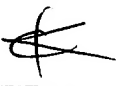
U.S. Patent Documents


*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						

Foreign Patent Documents

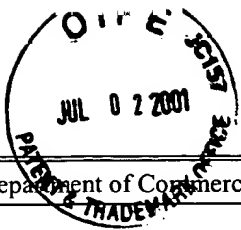
							Translation	
		Document	Date	Country	Class	Subclass	Yes	No
	AL							
	AM							
	AN							
	AO							
	AP							

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

	AQ	Brauer, R. et al., "Electromagnetic diffraction analysis of two-dimensional gratings", <i>Elsevier Science Publishers</i> (1993) Pages 1-5.
	AR	Han, S. et al., "Electromagnetic scattering of two-dimensional surface-relief dielectric grating", <i>Applied Optics</i> , Vol. 31 (1992) Pages 2343-2352.
	AS	

Examiner 	Date Considered 2/14/02
--	-------------------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.



U.S. Department of Commerce, Patent and Trademark Office	Atty Docket No. <i>H 7</i>	Serial No.
	M-9455 US	09/670,000
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Applicants	
(Use several sheets if necessary)	James M. Holden et al.	
	Filing Date	Group
	September 25, 2000	Unknown

U.S. Patent Documents

*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
<i>K</i>	AA	6,031,614	Feb. 29, 2000	Michaelis et al.	356	369	<u> </u>
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AJ						
	AJ						
	AK						

Foreign Patent Documents

							Translation	
		Document	Date	Country	Class	Subclass	Yes	No
	AL							
	AM							
	AN							
	AO							
	AP							

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

	AQ	
	AR	
	AS	

Examiner *Ca* Date Considered *2/14/02*

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.



#8

Sheet 1 of 1

U.S. Department of Commerce, Patent and Trademark Office	Atty Docket No.	Serial No.
	M-9455 US	09/670,000
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Applicants	
(Use several sheets if necessary)	James M Holden et al.	
	Filing Date	Group
	September 25, 2000	Unknown

U.S. Patent Documents

*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						

Foreign Patent Documents

							Translation	
		Document	Date	Country	Class	Subclass	Yes	No
	AL							
	AM							
	AN							
	AO							
	AP							

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

	AQ	Huang, H. et al., "Normal-incidence spectroscopic ellipsometry for critical dimension monitoring", <i>Applied Physics Letters</i> , Vol. 78 (2001) Pages 3983-3985.
	AR	Sun, J. et al., "Profile Measurement on IC Wafers by Holographic Interference", <i>SPIE</i> Vol. 673 (1986) Pages 135-143.
	AS	

Examiner Date Considered 2/14/01

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.

U.S. Department of Commerce, Patent and Trademark Office				Atty Docket No.		Serial No.		
				M-9455 US		097670,000		
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)				Applicants				
				James M. Holden et al.				
				Filing Date		Group		
				September 25, 2000		2878		
U.S. Patent Documents								
*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate	
	AA							
	AB							
	AC							
	AD							
	AE							
	AE							
	AG							
	AH							
	AI							
	AJ							
	AK							
Foreign Patent Documents								
							Translation	
		Document	Date	Country	Class	Subclass	Yes	No
	AE							
	AM							
	AN							
	AO							
	AP							
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)								
	AQ	Krukar, R. et al., "Overlay and Grating Line Shape Metrology Using Optical Scatterometry (unclassified) DARPA I 1993 Final Report.						
	AR	McNeill, J. et al., "Scatterometry Applied to Microelectronics Processing" <i>Microolithography World</i> (1992) Pages 16-22.						
	AS							
Examiner			Date Considered Feb 14, 2002					
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.								